



Australia's First Integrated LFP Battery Cathode Project

Annual General Meeting

October 2022

ASX: AEV

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Compliance Statement

Information in this document relating to Exploration Results or estimates of Mineral Resources or Ore Reserves has been extracted from the reports listed below. The reports are available to be viewed on the company website at: www.avenira.com

Wonarah Project

15 March 2013: Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project, Northern Territory, Australia 30 April 2014: Quarterly activities report

Avenira confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Avenira confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



Wonarah - 400,000T Bulk Sample Project



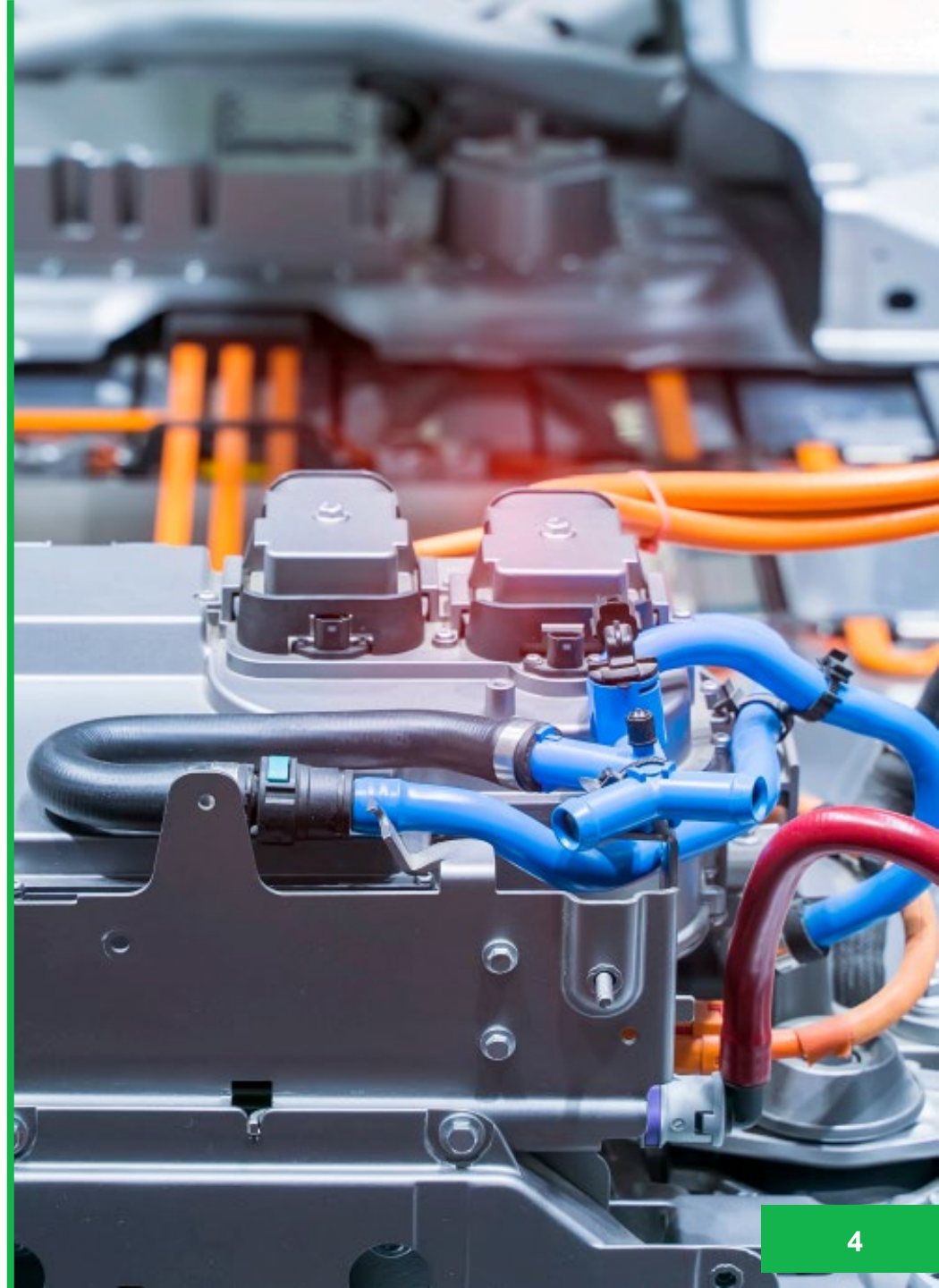
Avenira's Value Creation Strategy

Avenira is very well positioned in the Battery Value Chain

By establishing a local, integrated supply chain, Avenira will sell critical high-value products into the **electric vehicle, energy storage, agricultural and industrial chemical markets.**

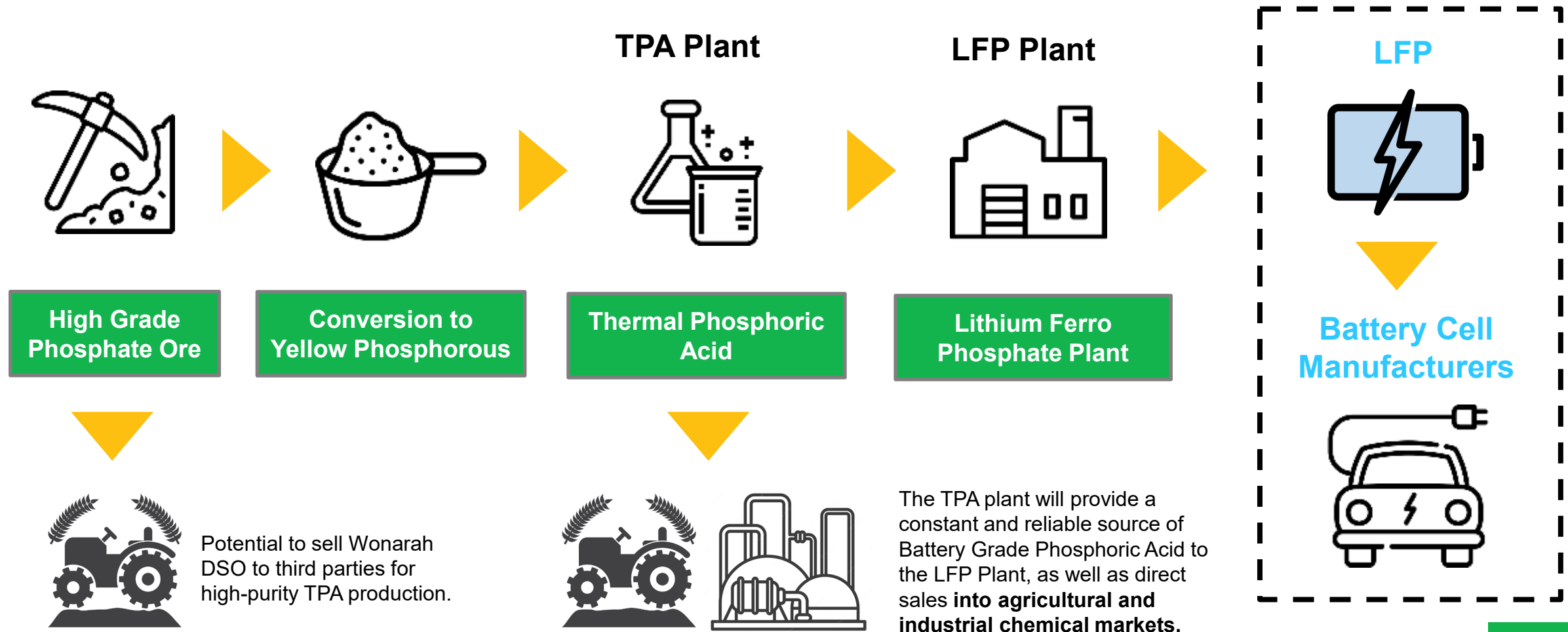
Feedstock from the world-class Wonarah Phosphate Project will enable the production and sale of **THREE** highly valuable product streams

1. Direct Shipping Ore (**DSO**) Phosphate, to supply into the fertilizer markets and for TPA production
2. Thermal Grade Phosphoric Acid (**TPA**)
3. LFP Cathode Active Material (**LFP**)



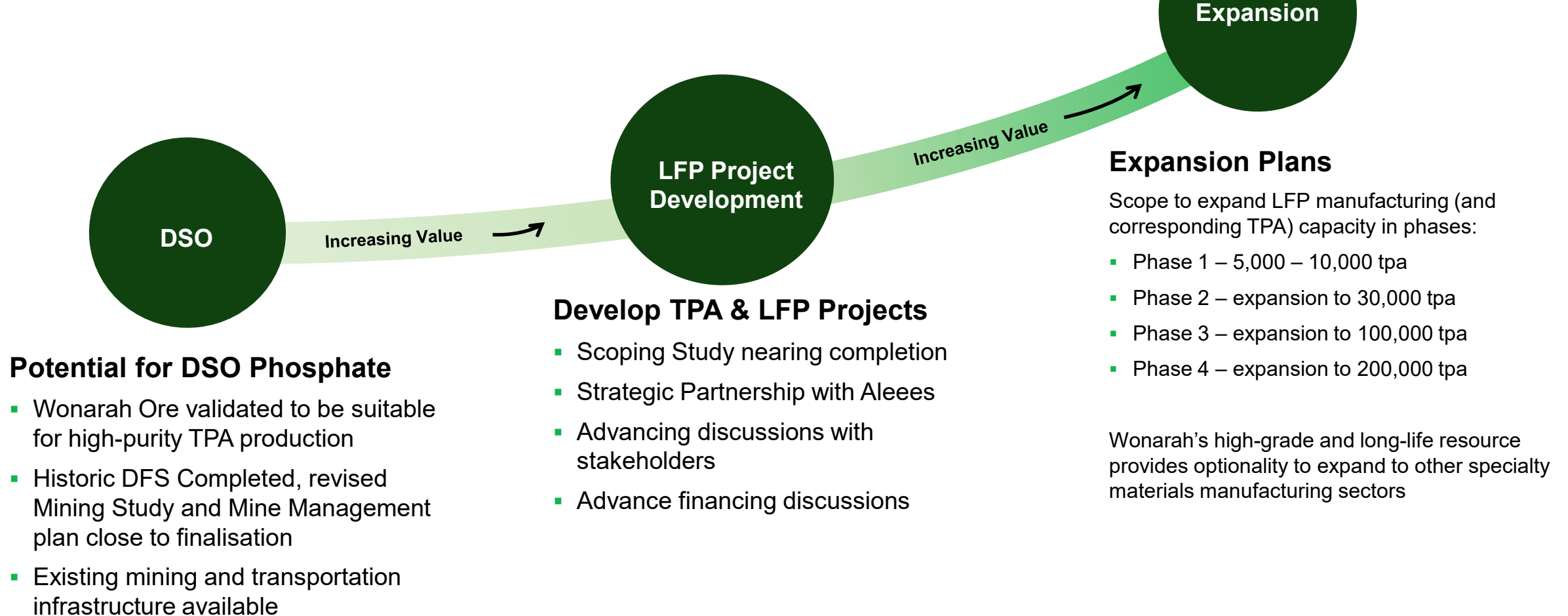
Our Path to LFP Production

Avenira's Wonarah Project will supply a steady source of high-grade Phosphorous, an essential precursor for LFP Battery Cathodes and a high value input into agriculture



Our Value Creation Strategy

Avenira is aiming to become Asia Pacific's first integrated Battery Cathode Plant outside of China, Taiwan and Japan



Avenira's Relationship with Aleees

- Advanced Lithium Electrochemistry Ltd (Aleees) is only one of two companies outside China with complete LFP cathode material manufacturing capability and patents for EV and stationary storage batteries.
- The MOU establishes Aleees as Avenira's preferred technology partner, with Aleees licensing its technology and providing operational, management and research and development support for the establishment and operation of the LFP Plants.

Advanced Lithium Electrochemistry Ltd (Aleees), listed on the Taiwan Stock Exchange (TWSE: 5227) is a globally recognised LFP battery material manufacturer

- More than 120 exclusive patents worldwide on various types of LFP products
- 40 global customers across Europe, U.S., Japan, Korea, and Asia, specialising in high-quality, low-cost, and long life-cycle LFP cathode materials

Aleees' Existing Partners & Licensees:





The Rise of LFP Batteries

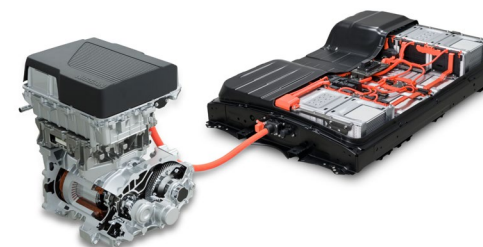
What is LFP Cathode Active Material?

Cathode Active Materials (CAM) are high purity chemicals that distinguish the application and output of different types of Lithium-ion batteries

- Battery cell manufacturers are currently facing **unprecedented demand for Lithium-ion batteries**, with demand expected to grow exponentially over the next decade
- **Cathode active materials within electric batteries** determine the cost, durability, safety, efficiency and **overall performance of Lithium-ion batteries**
- Over the next decade two types of cathode active materials are expected to dominate the electric vehicle and renewable energy storage markets:
 - Lower energy density, **LFP CAM**
 - Higher energy density, **NCM CAM**
- In August 2022, **UBS raised its outlook for LFP share of the global battery cathode market to 40% by 2030**



LFP Cathode Active Material Powder



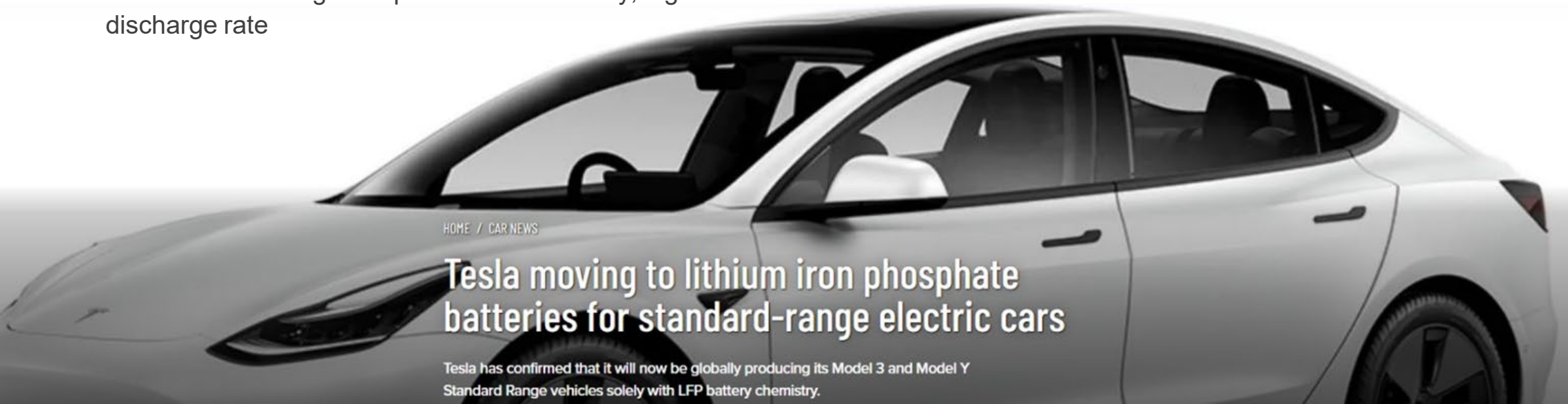
and



The Rise of LFP Batteries

Lithium Ferro Phosphate batteries are growing rapidly in popularity for electric vehicles and stationary storage

- ✓ **Lower Cost:** low cost, effective vs surging nickel and cobalt prices
- ✓ **Safety:** safe, low toxicity and thermal stability, no fires
- ✓ **Reliability:** well-defined performance, longer life cycle
- ✓ **Energy Density:** four times the energy density of lead acid batteries
- ✓ **Performance:** long-term performance stability, higher discharge rate
- ✓ **Faster Charge:** cycle life for LFP batteries is significantly higher than other lithium ion batteries
- ✓ **Light Weight:** superior power-to-weight ratio, smaller battery packs
- ✓ **Ethically Sourced:** does not contain conflict metals, such as Cobalt
- ✓ **Recyclable:** Nickel and Cobalt-free, recycling friendly
- ✓ **Less Maintenance:** no memory effect from incomplete discharge before re-charging



EV Manufacturers are Shifting to LFP

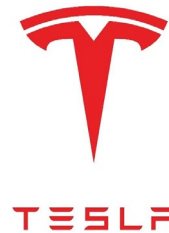
A desire for more cost-effective and safer battery cells has led major global automakers to turn to LFP as an alternative to standard Nickel-Cobalt-Manganese (NCM) and Nickel-Cobalt-Aluminum (NCA) based cells

- **Tesla** announced in October 2021 that it would be transitioning to LFP battery cells in its standard-range vehicles
- Since then, **Ford, Volkswagen, Mercedes** and other major automobile manufacturers have also stated their intentions to work on implementing LFP cells in their electric vehicle models



Tesla Model 3 with Lithium Iron Phosphate (LFP) Battery Cell

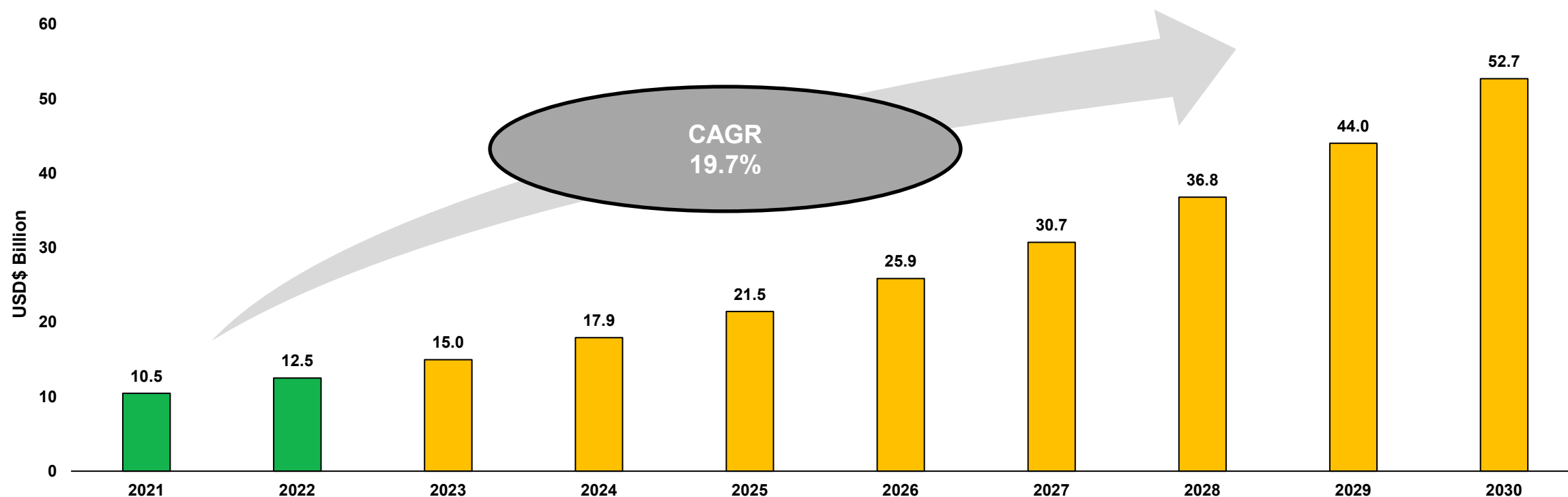
Electric Vehicle Manufacturers Transitioning to LFP



Strong LFP Market Outlook

Rapid LFP demand growth is likely to see it become one of the dominant Li-ion battery chemistries in the next few years, due to its superior safety and performance characteristics, ESG values and more cost-effective structure.

Global LFP Battery Market Size, 2021 to 2030 (USD Billion)



Source: Precedence Research, Lithium Iron Phosphate Battery Market



Avenira's Competitive Advantage

Wonarah - Largest Premium Grade Phosphate Deposit In Australia

Wonarah has the largest high-grade Phosphate resource In Australia with its Ore well suited for the production of high-purity TPA

High Grade Phosphate Resource.

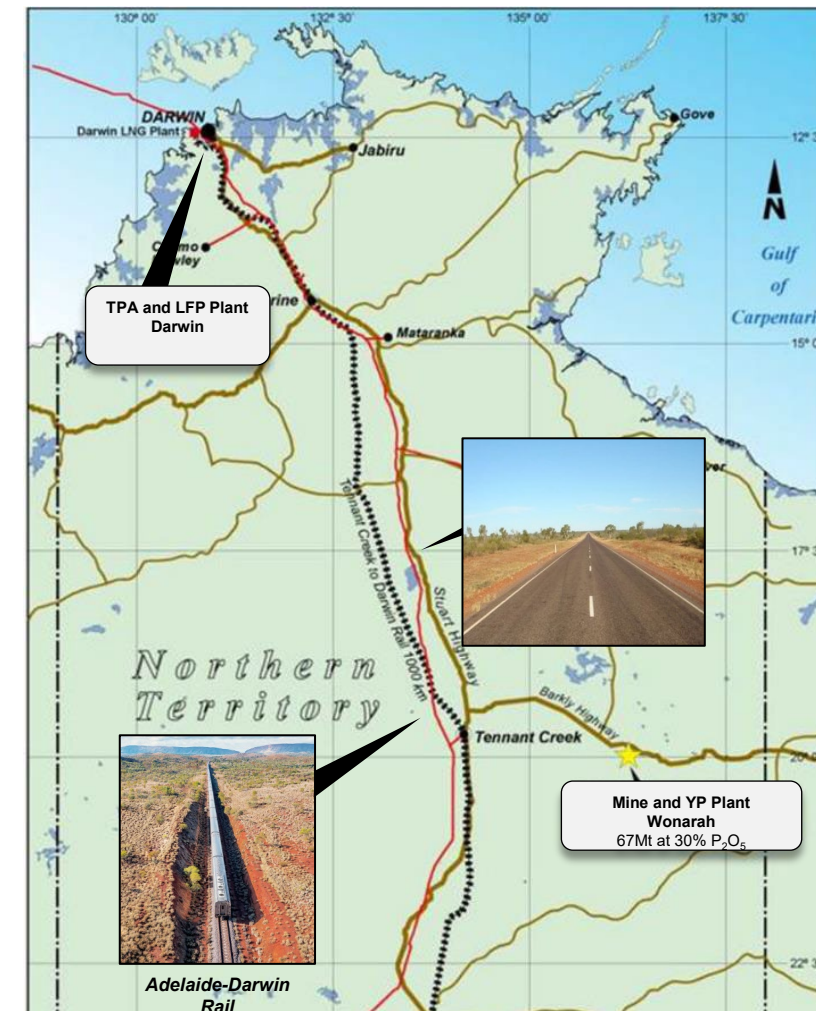
Total Resource 532.9Mt (15% P_2O_5 cutoff grade)

- Measured Resource of 64.9 Mt @ 22.4% P_2O_5
- Indicated Resource of 133 Mt @ 21.1% P_2O_5
- Inferred Resource of 335 Mt @ 21% P_2O_5

50+ years mine life

Access to existing Infrastructure

- Access to established bulk commodity port at Darwin
- Adjacent to priority highway Barkley Highway
- Proximity to railway with spare freight capacity Tennant Creek to Darwin
- Highly suitable for solar energy, located in Australia's highest photovoltaic region
- Northern gas pipeline runs through the project area

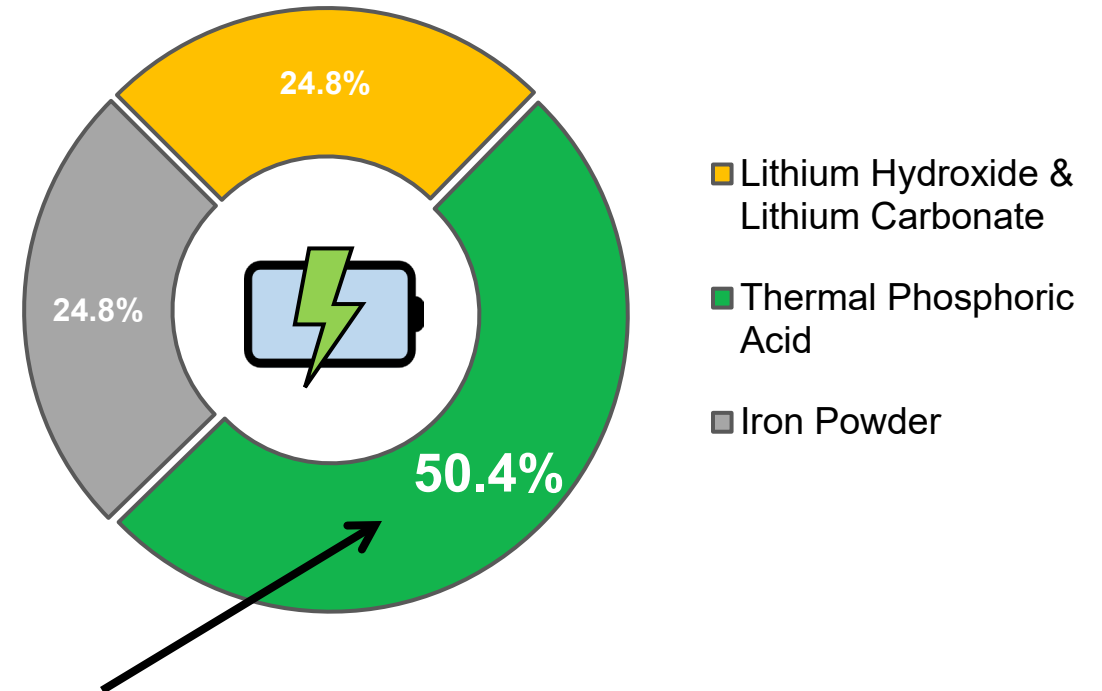


Avenira's Cost and Logistical Advantages

Geographic proximity to the under-supplied raw materials required to produce LFP, enables Avenira to have significant cost and logistical advantages relative to other LFP producers

- Australia supplies approximately 50% of the world's Lithium, the largest raw material cost component of LFP. Regional proximity and **access to the worlds predominant Lithium producers** will facilitate significant transport cost benefits and supply-chain security
- Global supply disruptions in Phosphate markets have driven the price of Phosphate rock to record highs. The Wonarah Project is the largest and highest-grade Phosphate rock deposit in Australia, and will provide a **secure supply of feedstock** to the LFP Plant
- LFP battery production capacity and intellectual property resides almost exclusively in China (>93% of global LFP). Avenira has partnered with Aleees, for the **intellectual property rights to produce LFP in Australia**.
- Electric vehicle manufacturers are diversifying their supply chains into non - China jurisdictions, with **potential premiums for non-Chinese cathode providers**
- In July 2022, the US Inflation Reduction Act was passed, which contained tax credits and incentives to **reduce demand for Chinese battery imports, benefitting US trading partners**

Components of LFP CAM by Raw Material Volume

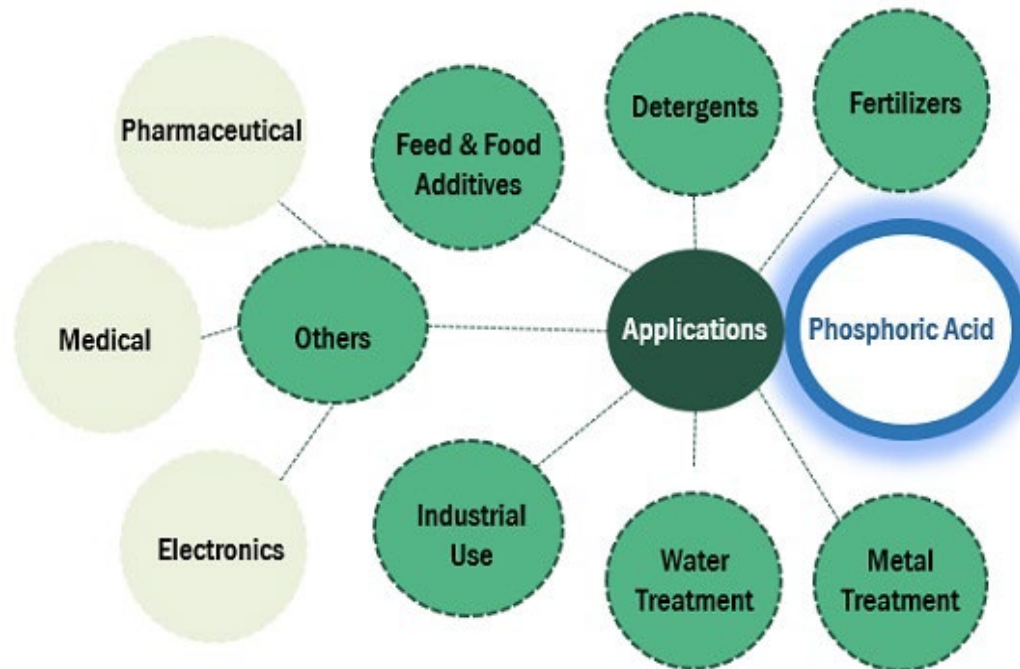


TPA is the largest material input (by volume) to produce LFP

Wonarah Delivers a High Purity Phosphoric Acid

TPA produced to feed the LFP Plant also provides Avenira flexibility in cross-selling into other high-value industrial chemical and fertilizer markets due to its high purity

Phosphoric Acid Ecosystem



- Thermal Phosphoric Acid boasts **higher purity** than Phosphoric Acid produced under the conventional “wet-method”
- Wonarah Phosphate rock is particularly conducive to the “thermal-method” of production due to its **exceptionally high-grade**
- TPA has a **broad range of applications**, and is commonly used in the chemical food, medical and semiconductor industries
- Due to limitations on the availability of high-grade Phosphate rock in Asia Pacific, the Wonarah Project will also provide functionality to sell TPA to other regional battery cell manufacturers

Potential for DSO Starter Project

Advanced offtake discussions to secure DSO offtake with a TPA producer. First sales expected by H1 2023.



Product Qualification with potential TPA offtaker



Mine Management Plan expected to be completed in November 2022.



Existing New Mining Camp on site



Final Road, Rail Haulage and port handling negotiations commenced and expected to be complete in Dec qtr 2022



Final Negotiation with Traditional Land Owners expected to be complete in December 2022.



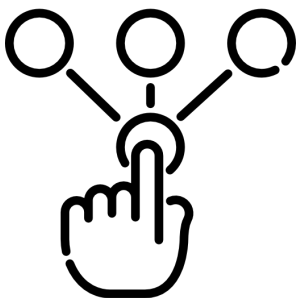
Existing DFS completed for DSO operation in 2011.



Avenira's Value Proposition



Australia's Largest
High-Grade Phosphate
Ore Deposit



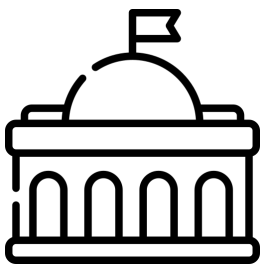
Optionality to build either TPA, LFP
or both plants to capitalise on the
LFP battery or industrial market



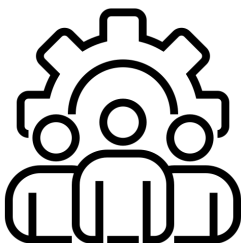
Close Proximity to Rail
and Road Infrastructure



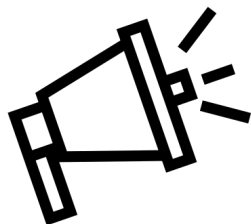
Wonarah Mine located
adjacent to pipeline for
affordable energy to
produce TPA



Strong Government
support to develop the
LFP and TPA projects



Strong team of
Management and
Advisors



Strong pipeline of news
flow expected over next
12-18 months



Primed to be a
significant LFP
producer globally



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